

0590
0403

#2



OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/071,900

DATE: 04/09/2002

TIME: 10:50:21

Input Set : N:\Crf3\RULE60\10071900.raw

Output Set: N:\CRF3\04092002\J071900.raw

1 <110> APPLICANT: St. George-Hyslop, Peter H.
2 Rommens, Johanna
3 Fraser, Paul E.
4 <120> TITLE OF INVENTION: Alzheimer's Related Proteins and Methods
5 of Use
6 <130> FILE REFERENCE: 1034/1F810-US1
7 <140> CURRENT APPLICATION NUMBER: 10/071,900
8 <141> CURRENT FILING DATE: 2002-02-08
10 <150> PRIOR APPLICATION NUMBER: US/09/227,725
11 <151> PRIOR FILING DATE: 1999-01-08
14 <160> NUMBER OF SEQ ID NOS: 4
15 <170> SOFTWARE: FastSEQ for Windows Version 3.0
17 <210> SEQ ID NO: 1
18 <211> LENGTH: 467
19 <212> TYPE: PRT
20 <213> ORGANISM: Homo Sapien
21 <400> SEQUENCE: 1
22 Met Thr Glu Leu Pro Ala Pro Leu Ser Tyr Phe Gln Asn Ala Gln Met
23 1 5 10 15
24 Ser Glu Asp Asn His Leu Ser Asn Thr Val Arg Ser Gln Asn Asp Asn
25 20 25 30
26 Arg Glu Arg Gln Glu His Asn Asp Arg Arg Ser Leu Gly His Pro Glu
27 35 40 45
28 Pro Leu Ser Asn Gly Arg Pro Gln Gly Asn Ser Arg Gln Val Val Glu
29 50 55 60
30 Gln Asp Glu Glu Glu Asp Glu Glu Leu Thr Leu Lys Tyr Gly Ala Lys
31 65 70 75 80
32 His Val Ile Met Leu Phe Val Pro Val Thr Leu Cys Met Val Val Val
33 85 90 95
34 Val Ala Thr Ile Lys Ser Val Ser Phe Tyr Thr Arg Lys Asp Gly Gln
35 100 105 110
36 Leu Ile Tyr Thr Pro Phe Thr Glu Asp Thr Glu Thr Val Gly Gln Arg
37 115 120 125
38 Ala Leu His Ser Ile Leu Asn Ala Ala Ile Met Ile Ser Val Ile Val
39 130 135 140
40 Val Met Thr Ile Leu Leu Val Val Leu Tyr Lys Tyr Arg Cys Tyr Lys
41 145 150 155 160
42 Val Ile His Ala Trp Leu Ile Ile Ser Ser Leu Leu Leu Leu Phe Phe
43 165 170 175
44 Phe Ser Phe Ile Tyr Leu Gly Glu Val Phe Lys Thr Tyr Asn Val Ala
45 180 185 190
46 Val Asp Tyr Ile Thr Val Ala Leu Leu Ile Trp Asn Phe Gly Val Val
47 195 200 205

ENTERED

RAW SEQUENCE LISTING

DATE: 04/09/2002

PATENT APPLICATION: US/10/071,900

TIME: 10:50:21

Input Set : N:\Cr3\RULE60\10071900.raw

Output Set: N:\CRF3\04092002\J071900.raw

```

48   Gly Met Ile Ser Ile His Trp Lys Gly Pro Leu Arg Leu Gln Gln Ala
49       210                215                220
50   Tyr Leu Ile Met Ile Ser Ala Leu Met Ala Leu Val Phe Ile Lys Tyr
51       225                230                235                240
52   Leu Pro Glu Trp Thr Ala Trp Leu Ile Leu Ala Val Ile Ser Val Tyr
53               245                250                255
54   Asp Leu Val Ala Val Leu Cys Pro Lys Gly Pro Leu Arg Met Leu Val
55               260                265                270
56   Glu Thr Ala Gln Glu Arg Asn Glu Thr Leu Phe Pro Ala Leu Ile Tyr
57               275                280                285
58   Ser Ser Thr Met Val Trp Leu Val Asn Met Ala Glu Gly Asp Pro Glu
59               290                295                300
60   Ala Gln Arg Arg Val Ser Lys Asn Ser Lys Tyr Asn Ala Glu Ser Thr
61       305                310                315                320
62   Glu Arg Glu Ser Gln Asp Thr Val Ala Glu Asn Asp Asp Gly Gly Phe
63               325                330                335
64   Ser Glu Glu Trp Glu Ala Gln Arg Asp Ser His Leu Gly Pro His Arg
65               340                345                350
66   Ser Thr Pro Glu Ser Arg Ala Ala Val Gln Glu Leu Ser Ser Ser Ile
67               355                360                365
68   Leu Ala Gly Glu Asp Pro Glu Glu Arg Gly Val Lys Leu Gly Leu Gly
69       370                375                380
70   Asp Phe Ile Phe Tyr Ser Val Leu Val Gly Lys Ala Ser Ala Thr Ala
71       385                390                395                400
72   Ser Gly Asp Trp Asn Thr Thr Ile Ala Cys Phe Val Ala Ile Leu Ile
73               405                410                415
74   Gly Leu Cys Leu Thr Leu Leu Leu Leu Ala Ile Phe Lys Lys Ala Leu
75               420                425                430
76   Pro Ala Leu Pro Ile Ser Ile Thr Phe Gly Leu Val Phe Tyr Phe Ala
77               435                440                445
78   Thr Asp Tyr Leu Val Gln Pro Phe Met Asp Gln Leu Ala Phe His Gln
79       450                455                460
80   Phe Tyr Ile
81       465
83 <210> SEQ ID NO: 2
84 <211> LENGTH: 448
85 <212> TYPE: PRT
86 <213> ORGANISM: Homo Sapien
87 <400> SEQUENCE: 2
88   Met Leu Thr Phe Met Ala Ser Asp Ser Glu Glu Glu Val Cys Asp Glu
89       1                5                10                15
90   Arg Thr Ser Leu Met Ser Ala Glu Ser Pro Thr Pro Arg Ser Cys Gln
91               20                25                30
92   Glu Gly Arg Gln Gly Pro Glu Asp Gly Glu Asn Thr Ala Gln Trp Arg
93               35                40                45
94   Ser Gln Glu Asn Glu Glu Asp Gly Glu Glu Asp Pro Asp Arg Tyr Val
95       50                55                60
96   Cys Ser Gly Val Pro Gly Arg Pro Pro Gly Leu Glu Glu Glu Leu Thr
97       65                70                75                80

```

RAW SEQUENCE LISTING

DATE: 04/09/2002

PATENT APPLICATION: US/10/071,900

TIME: 10:50:21

Input Set : N:\Cr3\RULE60\10071900.raw

Output Set: N:\CRF3\04092002\J071900.raw

```

98      Leu Lys Tyr Gly Ala Lys His Val Ile Met Leu Phe Val Pro Val Thr
99              85                      90                      95
100     Leu Cys Met Ile Val Val Val Ala Thr Ile Lys Ser Val Arg Phe Tyr
101              100                      105                      110
102     Thr Glu Lys Asn Gly Gln Leu Ile Tyr Thr Pro Phe Thr Glu Asp Thr
103              115                      120                      125
104     Pro Ser Val Gly Gln Arg Leu Leu Asn Ser Val Leu Asn Thr Leu Ile
105              130                      135                      140
106     Met Ile Ser Val Ile Val Val Met Thr Ile Phe Leu Val Val Leu Tyr
107     145              150                      155                      160
108     Lys Tyr Arg Cys Tyr Lys Phe Ile His Gly Trp Leu Ile Met Ser Ser
109              165                      170                      175
110     Leu Met Leu Leu Phe Leu Phe Thr Tyr Ile Tyr Leu Gly Glu Val Leu
111              180                      185                      190
112     Lys Thr Tyr Asn Val Ala Met Asp Tyr Pro Thr Leu Leu Leu Thr Val
113              195                      200                      205
114     Trp Asn Phe Gly Ala Val Gly Met Val Cys Ile His Trp Lys Gly Pro
115     210              215                      220
116     Leu Val Leu Gln Gln Ala Tyr Leu Ile Met Ile Ser Ala Leu Met Ala
117     225              230                      235                      240
118     Leu Val Phe Ile Lys Tyr Leu Pro Glu Trp Ser Ala Trp Val Ile Leu
119              245                      250                      255
120     Gly Ala Ile Ser Val Tyr Asp Leu Val Ala Val Leu Cys Pro Lys Gly
121              260                      265                      270
122     Pro Leu Arg Met Leu Val Glu Thr Ala Gln Glu Arg Asn Glu Pro Ile
123              275                      280                      285
124     Phe Pro Ala Leu Ile Tyr Ser Ser Ala Met Val Trp Thr Val Gly Met
125     290              295                      300
126     Ala Lys Leu Asp Pro Ser Ser Gln Gly Ala Leu Gln Leu Pro Tyr Asp
127     305              310                      315                      320
128     Pro Glu Met Glu Glu Asp Ser Tyr Asp Ser Phe Gly Glu Pro Ser Tyr
129              325                      330                      335
130     Pro Glu Val Phe Glu Pro Pro Leu Thr Gly Tyr Pro Gly Glu Glu Leu
131              340                      345                      350
132     Glu Glu Glu Glu Glu Arg Gly Val Lys Leu Gly Leu Gly Asp Phe Ile
133              355                      360                      365
134     Phe Tyr Ser Val Leu Val Gly Lys Ala Ala Ala Thr Gly Ser Gly Asp
135     370              375                      380
136     Trp Asn Thr Thr Leu Ala Cys Phe Val Ala Ile Leu Ile Gly Leu Cys
137     385              390                      395                      400
138     Leu Thr Leu Leu Leu Leu Ala Val Phe Lys Lys Ala Leu Pro Ala Leu
139              405                      410                      415
140     Pro Ile Ser Ile Thr Phe Gly Leu Ile Phe Tyr Phe Ser Thr Asp Asn
141              420                      425                      430
142     Leu Val Arg Pro Phe Met Asp Thr Leu Ala Ser His Gln Leu Tyr Ile
143              435                      440                      445
145 <210> SEQ ID NO: 3
146 <211> LENGTH: 1084
147 <212> TYPE: PRT

```

RAW SEQUENCE LISTING

DATE: 04/09/2002

PATENT APPLICATION: US/10/071,900

TIME: 10:50:21

Input Set : N:\Crif3\RULE60\10071900.raw

Output Set: N:\CRF3\04092002\J071900.raw

148 <213> ORGANISM: Homo Sapien

149 <220> FEATURE:

150 <221> NAME/KEY: UNSURE

151 <222> LOCATION: (115)

152 <223> OTHER INFORMATION: Xaa can be any amino acid

153 <400> SEQUENCE: 3

```

154      Met Thr Phe Asn Ala Gly Pro Ser Leu Leu Ser Gln Ser Ala Leu Gln
155      1              5              10              15
156      Leu Asn Ser Lys Pro Glu Gly Ser Phe Gln Tyr Pro Ala Ser Tyr His
157      20              25              30
158      Ser Asn Gln Thr Leu Ala Leu Glu Glu Thr Thr Pro Ser Gln Leu Pro
159      35              40              45
160      Ala Arg Gly Thr Gln Ala Arg Ala Thr Gly Gln Ser Phe Ser Gln Gly
161      50              55              60
162      Thr Thr Ser Arg Ala Gly His Leu Ala Gly Pro Glu Pro Ala Pro Pro
163      65              70              75              80
164      Pro Pro Pro Pro Pro Arg Glu Pro Phe Ala Pro Ser Leu Gly Ser Ala
165      85              90              95
166      Phe His Leu Pro Asp Ala Pro Pro Ala Ala Ala Ala Ala Leu Tyr
167      100             105             110
W--> 168      Tyr Ser Xaa Ser Thr Leu Pro Ala Pro Pro Arg Gly Gly Ser Pro Leu
169      115             120             125
170      Ala Ala Pro Gln Gly Gly Ser Pro Thr Lys Leu Gln Arg Gly Gly Ser
171      130             135             140
172      Ala Pro Glu Gly Ala Thr Tyr Ala Ala Pro Arg Gly Ser Ser Pro Lys
173      145             150             155             160
174      Gln Ser Pro Ser Arg Leu Ala Lys Ser Tyr Ser Thr Ser Ser Pro Ile
175      165             170             175
176      Asn Ile Val Val Ser Ser Ala Gly Leu Ser Pro Ile Arg Val Thr Ser
177      180             185             190
178      Pro Pro Thr Val Gln Ser Thr Ile Ser Ser Ser Pro Ile His Gln Leu
179      195             200             205
180      Ser Ser Thr Ile Gly Thr Tyr Ala Thr Leu Ser Pro Thr Lys Arg Leu
181      210             215             220
182      Val His Ala Ser Glu Gln Tyr Ser Lys His Ser Gln Glu Leu Tyr Ala
183      225             230             235             240
184      Thr Ala Thr Leu Gln Arg Pro Gly Ser Leu Ala Ala Gly Ser Arg Ala
185      245             250             255
186      Ser Tyr Ser Ser Gln His Gly His Leu Gly Pro Glu Leu Arg Ala Leu
187      260             265             270
188      Gln Ser Pro Glu His His Ile Asp Pro Ile Tyr Glu Asp Arg Val Tyr
189      275             280             285
190      Gln Lys Pro Pro Met Arg Ser Leu Ser Gln Ser Gln Gly Asp Pro Leu
191      290             295             300
192      Pro Pro Ala His Thr Gly Thr Tyr Arg Thr Ser Thr Ala Pro Ser Ser
193      305             310             315             320
194      Pro Gly Val Asp Ser Val Pro Leu Gln Arg Thr Gly Ser Gln His Gly
195      325             330             335
196      Pro Gln Asn Ala Ala Ala Ala Thr Phe Gln Arg Ala Ser Tyr Ala Ala

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/071,900

DATE: 04/09/2002

TIME: 10:50:21

Input Set : N:\Crf3\RULE60\10071900.raw

Output Set: N:\CRF3\04092002\J071900.raw

197				340				345				350				
198	Gly	Pro	Ala	Ser	Asn	Tyr	Ala	Asp	Pro	Tyr	Arg	Gln	Leu	Gln	Tyr	Cys
199			355					360				365				
200	Pro	Ser	Val	Glu	Ser	Pro	Tyr	Ser	Lys	Ser	Gly	Pro	Ala	Leu	Pro	Pro
201			370				375					380				
202	Glu	Gly	Thr	Leu	Ala	Arg	Ser	Pro	Ser	Ile	Asp	Ser	Ile	Gln	Lys	Asp
203	385					390					395					400
204	Pro	Arg	Glu	Phe	Gly	Trp	Arg	Asp	Pro	Glu	Leu	Pro	Glu	Val	Ile	Gln
205				405						410					415	
206	Met	Leu	Gln	His	Gln	Phe	Pro	Ser	Val	Gln	Ser	Asn	Ala	Ala	Ala	Tyr
207				420					425				430			
208	Leu	Gln	His	Leu	Cys	Phe	Gly	Asp	Asn	Lys	Ile	Lys	Ala	Glu	Ile	Arg
209			435					440					445			
210	Arg	Gln	Gly	Gly	Ile	Gln	Leu	Leu	Val	Asp	Leu	Leu	Asp	His	Arg	Met
211		450					455					460				
212	Thr	Glu	Val	His	Arg	Ser	Ala	Cys	Gly	Ala	Leu	Arg	Asn	Leu	Val	Tyr
213	465					470					475					480
214	Gly	Lys	Ala	Asn	Asp	Asp	Asn	Lys	Ile	Ala	Leu	Lys	Asn	Cys	Gly	Gly
215				485						490					495	
216	Ile	Pro	Ala	Leu	Val	Arg	Leu	Leu	Arg	Lys	Thr	Thr	Asp	Leu	Glu	Ile
217			500						505					510		
218	Arg	Glu	Leu	Val	Thr	Gly	Val	Leu	Trp	Asn	Leu	Ser	Ser	Cys	Asp	Ala
219		515						520					525			
220	Leu	Lys	Met	Pro	Ile	Ile	Gln	Asp	Ala	Leu	Ala	Val	Leu	Thr	Asn	Ala
221		530					535					540				
222	Val	Ile	Ile	Pro	His	Ser	Gly	Trp	Glu	Asn	Ser	Pro	Leu	Gln	Asp	Asp
223	545					550					555					560
224	Arg	Lys	Ile	Gln	Leu	His	Ser	Ser	Gln	Val	Leu	Arg	Asn	Ala	Thr	Gly
225				565						570					575	
226	Cys	Leu	Arg	Asn	Val	Ser	Ser	Ala	Gly	Glu	Glu	Ala	Arg	Arg	Arg	Met
227			580					585					590			
228	Arg	Glu	Cys	Asp	Gly	Leu	Thr	Asp	Ala	Leu	Leu	Tyr	Val	Ile	Gln	Ser
229		595						600					605			
230	Ala	Leu	Gly	Ser	Ser	Glu	Ile	Asp	Ser	Lys	Thr	Val	Glu	Asn	Cys	Val
231		610					615					620				
232	Cys	Ile	Leu	Arg	Asn	Leu	Ser	Tyr	Arg	Leu	Ala	Ala	Glu	Thr	Ser	Gln
233	625				630						635					640
234	Gly	Gln	His	Met	Gly	Thr	Asp	Glu	Leu	Asp	Gly	Leu	Leu	Cys	Gly	Glu
235				645						650					655	
236	Ala	Asn	Gly	Lys	Asp	Ala	Glu	Ser	Ser	Gly	Cys	Trp	Gly	Lys	Lys	Lys
237			660					665					670			
238	Lys	Lys	Lys	Lys	Ser	Gln	Asp	Gln	Trp	Asp	Gly	Val	Gly	Pro	Leu	Pro
239		675					680					685				
240	Asp	Cys	Ala	Glu	Pro	Pro	Lys	Gly	Ile	Gln	Met	Leu	Trp	His	Pro	Ser
241		690					695					700				
242	Ile	Val	Lys	Pro	Tyr	Leu	Thr	Leu	Leu	Ser	Glu	Cys	Ser	Asn	Pro	Asp
243	705					710					715					720
244	Thr	Leu	Glu	Gly	Ala	Ala	Gly	Ala	Leu	Gln	Asn	Leu	Ala	Ala	Gly	Ser
245				725						730					735	

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/071,900

DATE: 04/09/2002

TIME: 10:50:22

Input Set : N:\Crf3\RULE60\10071900.raw

Output Set: N:\CRF3\04092002\J071900.raw

L:168 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3